

REPLACED BY
ART 34 AMDT

27

CLAIMS:

1. A soil additive produced from crushing, grinding and blending specified source rocks wherein a final product contains at least three of andesite, basalt, limestone, dolomite and claystone.
- 5 2. A soil additive as claimed in claim 1 wherein the final product has a modal abundance of basalt in the range of 11% to 91%, limestone in the range of 1% to 59%, dolomite in the range of 0.025% to 30% and claystone in the range of 0% to 17.5%.
3. A soil additive as claimed in claim 2 wherein the final product
10 has a modal abundance of basalt in the range of 50% to 90.5%, limestone in the range of 1% to 22.5%, dolomite in the range of 0.025% to 12.5% and claystone in the range of 0% to 17.5%.
4. A soil additive as claimed in claim 2 wherein the final product
15 has a modal abundance of basalt in the range of 50% to 81.5%, limestone in the range of 3% to 28.5%, dolomite in the range of 0.5% to 18.5% and claystone in the range of 0% to 12%.
5. A soil additive as claimed in claim 2 wherein the final product
20 has a modal abundance of basalt in the range of 11% to 79.5%, limestone in the range of 10% to 59%, dolomite in the range of 1% to 30% and claystone in the range of 0% to 8%.
6. A soil additive as claimed in claim 1 wherein the final product has a modal abundance of andesite in the range of 0-20%, limestone in the range of 0-45%, dolomite in the range of 0-20%, and basalt in the range of 50-85%.
- 25 7. A soil additive as claimed in claim 6 wherein the final product has a modal abundance of andesite in the range of 0-20%, limestone in the range of 0-30%, dolomite in the range of 0-10%, and basalt in the range of 60-85%.
8. A soil additive as claimed in claim 6 wherein the final product
30 has a modal abundance of andesite in the range of 0-15%, limestone in the range of 0-45%, dolomite in the range of 0-15%, and basalt in the range of 55-80%.
9. A soil additive as claimed in claim 6 wherein the final product has a

REPLACED BY
ART 34 AMDT

modal abundance of andesite in the range of 0-15%, limestone in the range of 0-45%, dolomite in the range of 0-20%, and basalt in the range of 50-75% .

10. A soil additive produced from blending source rocks in the form of blending crushing waters produced by crushing a first source rock containing at least one of andesite, limestone, dolomite, basalt and claystone with crushing waters produced by crushing at least two second source rocks chosen from the group of andesite, limestone, dolomite, basalt and claystone.

11. A method for producing a soil additive comprising the steps of

- a. conducting analysis of mineralogy and/or crystalline structure of bulk rocks to determine the applicability of the bulk rocks to be used as a limestone source rock, a basalt source rock, a dolomite source rock or a claystone source rock,
- b. crushing each of the source rocks identified in the analysis,
- c. size analysis of each of the source rocks to determine whether each source rock is of a predetermined size,
- d. grinding of each of the source rocks, and
- e. blending of the source rocks to give a final blend.

12. The method for producing a soil additive as claimed in claim 11 wherein each of the source rocks are processed in a separate processing stream, being a limestone processing stream, a basalt processing stream, a dolomite processing stream or a claystone processing stream, to produce a product, the products from each separate processing stream combined to form the final blend.

13. The method for producing a soil additive as claimed in claim 11 wherein the crushing step reduces the source rocks to a particular size fraction.

14. The method for producing a soil additive as claimed in claim 11 wherein the size fraction is at or below 20mm.

15. The method for producing a soil additive as claimed in claim 12 wherein after the crushing stage, each processing stream is subjected to size determination to ensure the correct size fraction is obtained during the crushing stage.

16. The method for producing a soil additive as claimed in claim 15

wherein the basalt and dolomite processing streams are subjected to neutralising value and/or attribute analysis.

17. The method for producing a soil additive as claimed in claim 15 wherein each processing stream is subjected to at least one drying steps to remove at least some moisture from the respective processing streams.

18. The method for producing a soil additive as claimed in claim 11 wherein during the grinding step, each processing stream is finely ground to give a grinding size fraction in the size range of 0.030 millimetres up to 1.5 millimetres.

19. The method for producing a soil additive as claimed in claim 18 wherein size fraction ranges of the basalt processing stream is from 0.030 millimetres to 0.080 millimetres after the grinding step.

20. The method for producing a soil additive as claimed in claim 18 wherein size fraction ranges of the limestone processing stream is from 0.030 millimetres to 0.090 millimetres after the grinding step.

21. The method for producing a soil additive as claimed in claim 18 wherein size fraction ranges of the dolomite processing stream is from 0.030 millimetres to 0.5 millimetres after the grinding step.

22. The method for producing a soil additive as claimed in claim 18 wherein size fraction ranges of the claystone processing stream is from 0.040 millimetres to 0.5 millimetres after the grinding step.

23. The method for producing a soil additive as claimed in claim 11 wherein after the grinding stage, the limestone processing stream is tested for neutralising value and/or attribute analysis to ensure a grain size within the range of 0.030 millimetres to 0.090 millimetres.

REPLACED BY
ART 34 AMDT.